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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/872,254	06/01/2001	Tony S. Kaushal	004086 USA/ETCH/CORE TECH	4744
21861	7590	03/15/2004	EXAMINER JOHNSON, JONATHAN J	
JANAH & ASSOCIATES A PROFESSIONAL CORP 650 DELANCEY STREET SUITE 106 SAN FRANCISCO, CA 941072001			ART UNIT 1725	PAPER NUMBER

DATE MAILED: 03/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/872,254

Applicant(s)

KAUSHAL ET AL.

Examiner

Jonathan Johnson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 13-20 and 25-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 21-24 and 29-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6-1-01; 4-7-03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

Continuation of Attachment(s) 6). Other: IDS (PTO-1449) Mail Date: 7-17-01.

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## DETAILED ACTION

### *Election/Restrictions*

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-12, 21-24, and 29-32 are drawn to a gas treatment apparatus, classified in class 422, subclass 198.
- II. Claims 13-20 and 25-28 are drawn to a method of using a reactor classified in class 406, subclass various.

The inventions are distinct, each from the other because of the following reasons:

Inventions Group II and Group I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus can be used in a process that does not involve an effluent gas.

Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Ashok Janah on 2-19-04 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-12, 21-24, and 29-32.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 13-20 and 25-28 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

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***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-12, 21-24, and 29-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Milberger (4,099,923). With respect to Claims 1-6, Milberger teaches a device that the examiner interprets as capable of being a catalytic reactor having an effluent gas inlet and an effluent gas outlet (Figure 2, inlet and outlet); and a heater adapted to heat an effluent gas in the catalytic reactor, whereby effluent gas introduced through the effluent gas inlet is treated while flowing through the catalytic reactor to the effluent gas outlet (Figure 2, item 90); wherein the heater is in the catalytic reactor (Figure 3, item 100); wherein the heater is within an effluent gas flow path in the catalytic reactor (Figure 2, item 90); wherein the heater is adapted to heat the effluent gas to a temperature of at least about 700.degree C (Figure 2, item 90); where an internal wall adapted to change the direction of the effluent gas flow path in the reactor (Figure 2, base of item 100); where a scrubber capable of scrubbing the effluent gas, the scrubber comprising internal surfaces having a pH of at least about 8 (Figure 1, item 118).

With respect to Claims 7-12, Milberger teaches a device that the examiner interprets as capable of being a process chamber having a substrate support (Figure 2, items 25 and 108), a gas supply to introduce a gas into the chamber (Figure 2, inlet), a gas energizer to energize the

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gas to process the substrate and thereby generate an effluent gas (Figure 2, item 90), and an exhaust system to exhaust the effluent gas from the chamber (Figure 2, outlet); a catalytic reactor having an effluent gas inlet to receive the effluent gas and an effluent gas outlet (Figure 2, inlet and outlet); and a heater adapted to heat effluent gas in the catalytic reactor, whereby the effluent gas introduced through the effluent gas inlet is treated while flowing through the catalytic reactor to the effluent gas outlet (Figure 2, item 90); wherein the heater is in the catalytic reactor (Figure 2, item 90); wherein the heater is within an effluent gas flow path in the catalytic reactor (Figure 2, item 90); where an internal wall adapted to change the direction of the effluent gas flow path in the reactor (Figure 2, base of item 100); having a plurality of internal walls (Figure 3, item 96); having a scrubber capable of scrubbing the effluent gas, the scrubber comprising internal surfaces having a pH of at least about 8 (Figure 1, item 118).

With respect to Claims 29-32, Milberger teaches a device that the examiner interprets as capable of being a process chamber having a process chamber comprising a substrate support (Figure 1, item 100), a gas supply to introduce a gas into the chamber (Figure 2, inlet), a gas energizer to energize the gas to process the substrate and thereby generate an effluent gas, and an exhaust system to exhaust the effluent gas from the chamber (Figure 2, outlet and item 90); a catalytic reactor having an effluent gas inlet to receive the effluent gas and an effluent gas outlet (Figure 2, item 96); a heater adapted to heat the effluent gas in the catalytic reactor (Figure 2, item 90); and a controller adapted to control the heater to heat the effluent gas in the catalytic reactor to a pre-selected temperature, whereby effluent gas introduced through the effluent gas inlet is heated while flowing through the catalytic reactor to the effluent gas outlet (Figure 1,

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item 92); where the heater is in the catalytic reactor (Figure 2, item 90); wherein the controller is adapted to control the heater to heat the effluent gas to at least about 700.degree. C (Figure 1, item 92); wherein the controller is further adapted to introduce an additive gas into the effluent gas (Figure 1, item 27).

With respect to Claims 21 and 24, Milberger teaches a device that the examiner interprets as capable of being a scrubber capable of treating an effluent gas, the scrubber comprising a surface having a pH of at least about 8 (figure 1, item 118); a heater adapted to heat the effluent gas (Figure 2, item 90); and a catalytic reactor having an effluent gas inlet and an effluent gas outlet (Figure 2, item 96), whereby effluent gas introduced through the effluent gas inlet is treated while flowing through the catalytic reactor to the effluent gas outlet (figure 2, inlet and outlet) and an additive gas source (figure 1, item 27)

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Milberger as applied to claim 21 above and further in view of Lee (4,207,290). Lee teaches the use of one or more beads comprise at least about a 3% moisture content (col. 6, ll. 25-45). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the

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apparatus of Milberger to utilize the pellets of Lee in order to ensure the removal of moisture (see Lee col. 6, ll. 25-45).


### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan Johnson whose telephone number is 571-272-1177. The examiner can normally be reached on M-Th 7AM-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jonathan Johnson  
Examiner  
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